

Characteristics of paid malpractice claims settled in and out of court in the USA: a retrospective analysis

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To cite: Rubin JB, Bishop TF. Characteristics of paid malpractice claims settled in and out of court in the USA: a retrospective analysis. *BMJ Open* 2013;**3**:e002985. doi:10.1136/bmjopen-2013-002985

► Prepublication history for this paper is available online. To view these files please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2013-002985>).

Received 2 April 2013

Revised 2 May 2013

Accepted 3 May 2013

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ABSTRACT

Objective: An analysis of paid malpractice claims judged in court compared with those settled out of court may help explain perceptions of malpractice risk.

Design: A retrospective analysis and cross-sectional comparison of malpractice claims. Evaluated trends in the number and proportion of paid claims, and mean payment amount by resolution type; identified patient, physician and claim characteristics associated with each resolution type. Examined the effects of resolution type on payment amount and time to claim resolution.

Setting: Claims paid on behalf of US physicians reported in the National Practitioner Data Bank (NPDB) from 2005 to 2009.

Main outcome measures: Type of resolution, claim characteristics, payment amount and time to resolution.

Results: Between 2005 and 2009, there were 58 667 claims paid on behalf of US physicians. Of these paid claims, 56 850 (96.9%) were settled outside court, and 1817 (3.1%) were judged in court. There was no significant change in the proportion of paid claims resolved by settlement versus judgement over time ($p=0.83$); nor was there a significant change in the mean payment amount in either resolution group (settlement, $p=0.94$; judgement, $p=0.36$). The claims in which the physicians were under 50, had prior malpractice reports, which were paid by a state malpractice programme, for adverse events to a fetus, and for surgical or obstetric error were more likely to be judged in court. The mean payment amount (US \$592 283 vs US\$317 447, $p<0.01$), per cent of payments over US\$1 million (41.82% vs 15.43%, $p<0.01$), and time to decision (6.50 years vs 4.93 years, $p<0.01$) were significantly higher in judged claims.

Conclusions: Although only a very small percentage of paid malpractice claims in the USA are judged in court, a number of characteristics differ between settled and judged claims. Such differences may influence perceptions of malpractice risk and future reform efforts.

INTRODUCTION

Fear of malpractice is commonly cited as a driver of overuse of healthcare services and

ARTICLE SUMMARY

Article focus

- Previous research has shown that most malpractice claims are settled out of court, and that payments for claims judged in court are higher than for those settled out of court.
- This study analyses the differences in patient, physician and claim characteristics between claims that are judged in court and those that are settled out of court.

Key messages

- Several characteristics increase the likelihood that a case will be judged in court rather than settled out of court, such as: adverse events to a fetus, surgical and obstetric errors, payments by a state malpractice payer and prior physician malpractice reports.
- Such differences may influence perceptions of malpractice risk and can be used to guide future malpractice reform efforts.

Strengths and limitations of this study

- The study analyses over 58 000 claims paid on behalf of physicians in the USA between 2005 and 2009, identifying the patient, physician and claim characteristics that are associated with judgement in court.
- Several limitations of the National Practitioner Data Bank (NPDB): it only includes claims that resulted in a payment and excluded unsuccessful claims; corporate entities are exempted from reporting claims, and information on physician's specialty is excluded.
- An additional limitation is that analysis is limited to US malpractice claims.

high healthcare spending.^{1–6} This fear may cause physicians to order unnecessary tests, procedures and referrals in order to protect themselves from lawsuits, a practice known as defensive medicine. Perceptions of malpractice risk may drive defensive practice and may affect the types of policies that physicians and policymakers propose to limit defensive medicine, such as caps on awards.^{7–11} Perceptions of malpractice risk

may also affect efforts to reduce medical errors and adverse events; those who feel that they are at high risk for malpractice may impart more or broader processes to reduce medical errors and adverse events.

Physicians, policymakers and the public most likely derive their perceptions of malpractice from claims that are judged in court because these court cases are often reported on by the lay and medical press.^{2 12–14} Defending claims in court, however, incurs significant costs, both time and monetary, and is a source of stress and anxiety, so physicians are often seen to avoid this situation. Previous research has in fact shown that most malpractice claims are settled out of court, and that payments for claims judged in court are higher than for those settled out of court.^{15 16} Little is known about the patient, physician and event characteristics that are associated with judgement in court. If there are differences in the characteristics of paid claims that are judged in court compared with those that are settled out of court, individuals may misperceive the types of medical error that lead to malpractice. With a better understanding of these differences, physicians and policymakers may be able to focus future patient safety efforts and malpractice reforms on the common types of errors that might not be highlighted as claims that are judged in court.

We used data from the National Practitioner Data Bank (NPDB), a repository of all malpractice payments paid on behalf of practitioners in the USA, to address three research questions¹: What are the recent trends in the number and percentage of paid claims by type of resolution (settlement or judgement)?² Are there differences in the patient, physician and claim characteristics for each type of resolution?³ How does the type of resolution affect the payment amount and time to resolution? We hypothesised prior to inspection of the data that the vast majority of paid claims would be settled out of court, that court cases would result in higher payment amounts and a longer time to resolution, and that surgical and obstetrics claims would be more likely to be judged in court.

METHODS

Data, data source and sample

We used data from NPDB to perform a retrospective trend analysis and cross-sectional comparison of malpractice payments by type of resolution (settled out of court vs judged in court). NPDB is a repository of all malpractice claims paid on behalf of licensed healthcare practitioners in the USA. Payments must be reported within 30 days of payment under the Healthcare Quality and Improvement Act of 1986.^{17 18} NPDB is publicly available from the Department of Health and Human Services' Health Resources and Services Administration and has information on payments starting in September 1990. It contains information on the practitioner (eg, state and type of license) and the claim (eg, type of allegation, outcome of allegation, payment amount, time of

allegation, payment amount and settlement vs judgement). It also contains information on practitioner disciplinary action taken by hospitals and credentialing authorities.¹⁷ Prior to the creation of NPDB, malpractice patterns could only be studied using recorded information from jury verdicts in local jurisdictions. This provided no information on settled claims, which represent the vast majority.¹⁵

For our trend analysis, we examined claims paid on behalf of physicians (MD or DO) from 2005 to 2009, including resident physicians, because other types of practitioners are not required to report paid claims to NPDB. For our cross-sectional analyses, we pooled data from 2005 to 2009. These years were selected because 2005 was the first year that certain variables (eg, event setting) were consistently reported in the data set.

The study protocol was approved by the institutional review board of the Weill Cornell Medical College, New York, New York, USA.

Variables

The primary outcome variables for our trend analysis and the first cross-sectional comparison were the type of resolution (settled out of court vs judged in the court) for all paid claims between 2005 and 2009. The primary outcome variables for the second cross-sectional comparison were payment amount and time to resolution. The payment amounts are reported as means with 95% CIs, medians with IQRs, total payments in 2009, and number and per cent of payments above US\$1 000 000 in 2009. The payment amounts are adjusted for inflation on the basis of the US Department of Labor's Consumer Price Index.¹⁹

Other variables in our analyses included physician's age, number of prior malpractice reports in NPDB, number of prior other (non-malpractice) reports in NPDB, type of malpractice payer, patient's age, patient's sex, event type (diagnostic, surgical, treatment/medication, obstetrics or other), setting (inpatient, outpatient, both or unknown) and outcome (death, quadriplegic/brain damage/lifelong care, major injury, minor injury or emotional injury only).

Statistical analysis

We used standard methods to calculate the number, percentage and mean payment amount of malpractice claims by type of resolution. We used linear regression to compare trends in the number of paid claims and logistic regression to compare trends in the percentage of paid claims by type of resolution from 2005 to 2009. We used Pearson's χ^2 test to identify differences between patient, physician and claim characteristics and type of resolution for all paid claims between 2005 and 2009.

Given the skewed distribution of payment amounts and time to resolution, we used the Wilcoxon rank sum test to compare differences in the mean payment amount and mean time to resolution by type of resolution for all claims paid between 2005 and 2009.

All analyses were performed using Stata analytical software V.12.0 (Stata Corp, College Station, Texas, USA). All tests were two-sided, with $p < 0.05$ being considered statistically significant.

RESULTS

Between 2005 and 2009, there were 58 667 claims paid on behalf of physicians (table 1). Of these claims, 56 850 (96.9%; 95% CI 96.8% to 97.0%) were settled outside

court, and 1817 (3.1%; 95% CI 3.0% to 3.2%) were judged in court.

The number of paid claims decreased from 2005 to 2009 for both types of resolution. There were 13 375 settled claims and 425 judged claims in 2005, which decreased to 10 548 settled claims and 324 judged claims in 2009 (figure 1). There was no significant difference in the rate of decline between the groups ($p = 0.83$, settlements 21% decline, judgement 23.8% decline), and there was no significant change in the

Table 1 Differences in physician, patient and event characteristics by type of resolution, 2005–2009

	Settlement, % (95% CI) n=56 850	Judgement, % (95% CI) n=1817	p Value
All claims	96.9 (96.8 to 97.0)	3.1 (3.0 to 3.2)	
Physician's age			0.010*
<30	0.7 (0.5 to 0.6)	0.5 (0.2 to 0.8)	
30–49	54.8 (54.3 to 55.2)	58.5 (56.2 to 60.7)	
50–69	42.2 (41.8 to 42.6)	39.2 (36.9 to 41.4)	
≥70	2.5 (2.4 to 2.7)	1.8 (1.2 to 2.5)	
Prior malpractice reports in NPDB			0.023*
No	42.5 (42.1 to 42.9)	39.9 (37.6 to 42.1)	
Yes	57.5 (57.1 to 57.9)	60.2 (57.9 to 62.4)	
Prior other (non-malpractice) reports in NPDB			0.088
No	87.6 (87.3 to 87.9)	88.9 (12.1 to 12.7)	
Yes	12.4 (87.5 to 90.4)	11.1 (9.6 to 12.5)	
Relation of malpractice payer			<0.001*
Private insurance	84.7 (84.3 to 85.0)	80.7 (78.9 to 82.6)	
Self-insured organisation	9.5 (9.2 to 9.7)	9.9 (8.5 to 11.2)	
State medical malpractice payment	5.9 (5.7 to 6.1)	9.4 (8.1 to 10.8)	
Patient's age			<0.001*
≥80	2.6 (2.5 to 2.7)	1.1 (0.6 to 1.6)	
60–79	13.7 (13.4 to 14.0)	11.2 (9.8 to 12.7)	
40–59	24.2 (23.8 to 24.6)	28.7 (26.6 to 30.9)	
20–39	37.5 (37.1 to 37.8)	38.1 (35.8 to 40.4)	
0–19	20.1 (19.8 to 20.4)	18.1 (16.3 to 19.9)	
Fetus	2.0 (1.9 to 2.1)	2.7 (2.0 to 3.5)	
Patient's sex			0.094
Female	55.7 (55.3 to 56.1)	57.7 (55.4 to 60.0)	
Male	44.3 (43.9 to 44.7)	42.3 (40.0 to 44.6)	
Event type			<0.001*
Diagnostic	32.3 (31.9 to 32.7)	28.5 (26.4 to 30.5)	
Surgical	25.8 (25.5 to 26.2)	35.0 (32.8 to 37.1)	
Treatment/medication	24.4 (24.0 to 24.7)	20.1 (18.3 to 22.0)	
Obstetrics	8.2 (8.0 to 8.5)	8.8 (7.5 to 10.1)	
Other	9.3 (9.0 to 9.5)	7.7 (6.4 to 8.9)	
Setting			<0.001*
Inpatient	46.7 (46.3 to 47.1)	47.7 (45.4 to 50.0)	
Outpatient	40.2 (39.8 to 40.6)	38.0 (35.7 to 40.2)	
Both	9.2 (8.9 to 9.4)	11.7 (10.2 to 13.2)	
Unknown	4.0 (3.8 to 4.1)	2.6 (1.9 to 3.4)	
Outcome			<0.001*
Death	33.0 (32.7 to 33.4)	27.1 (25.1 to 29.1)	
Quadriplegic/brain damage/lifelong care	5.4 (5.2 to 5.6)	3.7 (2.8 to 4.6)	
Significant or major injury	36.5 (36.1 to 36.9)	42.5 (40.2 to 44.8)	
Minor or insignificant injury	23.4 (23.1 to 23.8)	24.8 (22.8 to 26.8)	
Emotional injury only	1.7 (1.6 to 1.8)	1.8 (1.2 to 2.5)	

NPDB, National Practitioner Data Bank. * $p < 0.05$

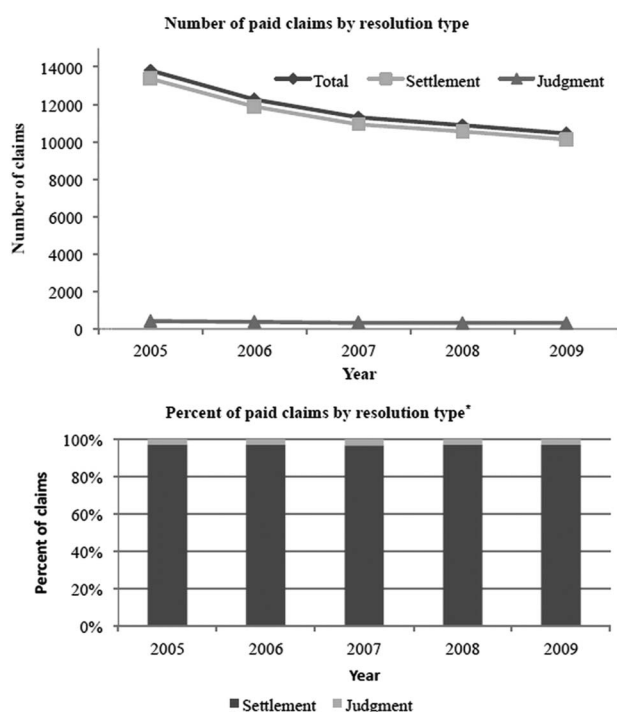


Figure 1 Trends in the number, proportion, and mean amount of malpractice claims by type of resolution, 2005–2009. *Proportion of judged claims did not change significantly from 2005 to 2009 ($p<0.828$).

proportion of suits resolved by settlement versus judgement over the 5-year period, with 96.9% of claims settled and 3.1% judged in both 2005 and 2009. In addition, there was no significant change in the mean payment amount in either resolution group over the 5-year period (settlement, $p=0.94$; judgement, $p=0.36$).

Paid claims were more likely to be settled out of court if the physician was over 50 years of age (44.7% of settled claims (95% CI 44.3 to 45.1) vs 41% of judged claims (95% CI 38.8 to 43.3), $p=0.01$) or had no prior malpractice reports (42.5% of settled claims (95% CI 41.1 to 42.9) vs 39.9% of judged claims (95% CI 37.6 to 42.1), $p=0.02$). Claims were more likely to be judged in court if the payer was a state malpractice programme (5.9% of settled claims (95% CI 5.7 to 6.1) vs 9.4% of judged claims (95% CI 8.1 to 10.8), $p<0.001$), if the patient was a fetus (2% of settled claims (95% CI 1.9 to

2.1) vs 2.7% of judged claims (95% CI 2.0 to 3.5), $p<0.001$), or if the patient was between 40 and 60 years of age (24.2% of settled claims (95% CI 23.8 to 24.6) vs 28.7% of judged claims (95% CI 26.6 to 30.9), $p<0.001$). Similarly, claims were more likely to be judged in court if they were for surgical and obstetric errors compared with other types of errors (surgical: 25.8% of settled claims (95% CI 25.5 to 26.2) vs 35% of judged claims (95% CI 32.8 to 37.1); obstetric: 8.2% of settled claims (95% CI 8.0 to 8.5) vs 8.8% of judged claims (95% CI 7.5 to 10.1), $p<0.001$). Interestingly, claims were more likely to be judged in court if they were for major injury (36.5% of settled claims (95% CI 36.1 to 36.9) vs 42.5% of judged claims (95% CI 40.2 to 44.8), $p<0.001$) than if they were for death (33% of settled claims (95% CI 32.7 to 33.4) vs 27.1% of judged claims (95% CI 25.1 to 29.1), $p<0.001$).

The mean payment amount for paid claims that were judged in court was significantly higher than that for paid claims settled out of court (for judgement, US\$592 283 (95% CI US\$546 777 to US\$637 790); for settlement, US\$317 447 (95% CI US\$313 575 to US\$321 319; $p<0.001$), as was the median payment amount (for judgement, US\$324 450 (IQR US\$125 000–US\$709 500); for settlement, US\$185 000 (IQR 63 250–406 850), $p<0.001$; table 2). In 2009, the total value of payments for claims settled out of court was US\$3.19 billion, compared with US\$182 million for those judged in court. However, while only 15.43% of settled claims in 2009 (1774 claims) resulted in payments greater than US\$1 million, 48.12% of claims judged in court in 2009 (207 claims) paid more than US\$1 million ($p<0.001$). Time to decision was significantly longer for paid claims judged in court compared with paid claims settled out of court (for judgement, 6.50 years (95% CI 6.36 to 6.64); for settlement, 4.93 years (95% CI 4.91 to 4.96); $p<0.0001$).

DISCUSSION

In this study, we compared malpractice payments for claims resolved in court with those settled out of court. We found that a very small percentage of paid claims in the USA were judged in court, and that this percentage did not change between 2005 and 2009. Obstetric claims, and those in which the patient was a fetus, were

Table 2 Malpractice payment characteristics by type of resolution, 2005–2009*

	Settlement, n=56 850	Judgement, n=1817	p Value
Payment amount, mean (95% CI)	317 447 (313 575 to 321 319)	592 283 (546 777 to 637 790)	<0.001
Payment amount, median (IQR)	185 000 (63 250–406 850)	324 450 (125 000 to 709 500)	
Total payment amount (2009)	3 190 000 000	182 000 000	
Number of payments >US\$1 million (2009)	1774	207	
Per cent of total payments >US\$1 million (2009)	15.43 (14.77 to 16.09)	41.82 (37.47 to 46.16)	<0.001
Mean time to resolution in years (95% CI)	4.93 (4.91 to 4.96)	6.50 (6.36 to 6.64)	<0.001

*Data are presented in 2009 US Dollars.

more likely to be judged in court. Similarly, surgical claims were more likely to be judged in court. The higher likelihood that obstetric and surgical claims are judged in court than diagnosis and treatment claims may shape perceptions of malpractice risk. Obstetricians and surgeons are often cited as high-risk specialties, but this perception of risk may be formed by what are essentially outlier claims that are judged in court.^{3 12 20–22} Moreover, because judged cases take significantly longer to resolve, surgeons and obstetricians are exposed to malpractice concerns for longer periods of time than physicians in other specialties, which may also influence their perception of malpractice risk. In contrast, there was a higher proportion of settled claims for diagnostic and treatment errors. This difference may also affect the physician's perception of malpractice risk: physicians performing procedures may overestimate their malpractice risk, whereas those diagnosing and treating may underestimate their malpractice risk.

Interestingly, we found that claims in which death was the outcome were more likely to be settled out of court. Although we do not know exactly why this occurred, insurers or physicians may feel as though cases resulting in death are more difficult to defend in court than cases resulting in injury, and therefore settlement is the best option. Alternatively, claims that resulted in serious or major injury to the patient may have been more likely to be judged in court because of the substantial asymmetric beliefs between plaintiffs and defendants about the most likely outcome.

Obstetric and surgical claims may be more likely to be judged in court because the potential damages are so high (eg, future medical costs and loss of earning potential) that plaintiffs' attorneys and their clients are willing to take a greater chance at trial for a high potential award. Moreover, as suggested by Jena *et al*¹⁶ in a recent analysis, claims against obstetrician/gynecologists (OB/GYNs) are more likely than claims against other physician specialties to be judged in favour of the plaintiff in court. This generosity shown to plaintiffs in obstetrics cases may lead more of them to aggressively seek trial. Previous research has also shown that catastrophic injuries to fetuses and children provoke sympathy among attorneys, insurers, and juries,²³ and that clinical guidelines are not always utilised to analyse malpractice and determine indemnity payments when children are involved.²⁴ Thus, there are several possible reasons for plaintiffs to push for trial in such cases. Alternatively, it is possible that physician defendants may in fact desire a trial in obstetrics cases because settlement values are so high that physicians are willing to take a chance that they might win the case and avoid all payments.

Like others, we found that a very small percentage of paid malpractice claims are judged in court.^{15 25 26} Claims that reached the courts resulted in significantly higher average payment amounts and took an average of a year and a half longer to resolve than claims that were

settled out of court. Moreover, nearly 50% of claims judged in court result in payments greater than US\$1 million. Yet payments for claims judged in court still accounted for less than a fifth of the total payment amount in 2009. Again, these findings may contribute to perceptions that medical malpractice claims lead to exorbitant payouts driven by out-of-control juries, even though the number of judged claims is low,^{9 21} equating to about 0.0003 claims per practicing physician.

Our study has several limitations. First, NPDB only contains data on successful claims (ie, claims that resulted in a payment) and not on claims that were filed but were unsuccessful. Unsuccessful claims include those that were not pursued to settlement or judgement, were dismissed by the courts, or were decided as a judgement in favour of the physician. While there is minimal data on unsuccessful settled cases, the aforementioned report by Jena *et al*¹⁶ sheds light on unsuccessful litigation, finding that approximately half of the claims filed were dismissed prior to trial, and that nearly 80% of claims that ultimately underwent a jury verdict were judged in favour of the physician. Thus, a significant proportion of claims do not result in payment. It is unknown, however, whether physicians base their assessment of malpractice risk on all claims (both successful and unsuccessful) or only on claims which resulted in a payment. Moreover, we do not have information on differences in the proportion of settled and judged claims that do not lead to payments. It is possible that high payments for claims judged in court result in part from a high proportion of lower value claims that are dismissed or judged in the physician's favour and are therefore excluded from this analysis. Of note, in the Jena *et al*¹⁶ analysis, the types of claims that we found more likely to be judged in court (eg, surgical and obstetric) did not have the lowest rates of dismissal.

Second, our data source, NPDB, may understate the number of settled malpractice claims because settlements paid on behalf of corporate entities rather than physicians are exempted from reporting. We do not know whether or how these settled claims differ from the ones reported in NPDB. As a result, the characteristics of settled claims in this study may differ from the true characteristics of settled claims. Third, NPDB does not provide information on the physician's specialty. Several physicians' specialties are considered high risk, such as obstetrics, emergency medicine and radiology.^{3 21 27} We cannot determine in this study whether the prevalence of judged versus settled malpractice payments differs for these and other specialties, although the data do provide information on error types, which can serve as a proxy for specialty in some cases. Finally, NPDB only includes data for US medical malpractice claims, limiting the applicability of this research to other legal systems. However, several of the patterns of US medical malpractice claims are apparent in other countries as well. For example, information from the National Health Service (NHS) Litigation Authority of the UK indicates that the

vast majority of malpractice claims in the UK are also settled out of court, and that specialties such as OB/GYN and surgery generate both the highest number of claims and highest payment amounts.²⁸ Thus, perceptions of malpractice risk are most likely similar in countries in comparison with the USA.

There are a number of practice and policy implications, given the findings in our study. For physicians, misperceptions that are derived from high-profile court cases regarding which types of errors and which physicians' specialties are most at risk for malpractice may drive defensive practices. For example, physicians in procedure-oriented fields may practice more defensively (eg, obstetricians performing more caesarean sections) than physicians in fields that involve diagnosis and treatment because they hear about the high payouts in court cases. Alternately, physicians may pay more careful attention to medical errors when they perceive a higher malpractice risk. As a result, physicians and healthcare organisations may implement protocols and systems to reduce errors for obstetric and procedure-based care and neglect protocols and systems to reduce errors in diagnosis and treatment.

For policymakers, misperceptions derived from knowledge of claims judged in court almost certainly affect how they approach malpractice reform. Policymakers often cite out-of-control juries as drivers of defensive practices and rising healthcare costs.^{5 6 9 29} As a result, most malpractice reform has centred around caps on damages at both the state and national levels.^{7-9 11} We found no indication that the number of malpractice claims judged in court was increasing or that the payment amounts for these claims were increasing. These findings suggest that current reform efforts such as caps on damages and expert witness requirements may have little effect on overall malpractice spending or defensive medicine.

Further research in this area should continue to monitor the prevalence and cost of settled and judged claims. Given that the majority of malpractice claims in the USA are settled out of court, research that furthers our understanding of how settled claims might affect perceptions of malpractice risk and how these perceptions affect defensive practices and error reduction programmes might offer insight into how we can improve our malpractice system, reduce malpractice costs, and minimise avoidable errors and injuries.

Contributors TFB and JBR both contributed to the conception and design, analysis and interpretation of data, drafting and revision of the manuscript, and approved the final version to be published.

Funding This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests TFB is supported by a National Institute On Aging Career Development Award (K23AG043499) and by funds provided to her as a Nanette Laitman Clinical Scholar in Public Health at the Weill Cornell Medical College.

Ethics approval Weill Cornell Medical College.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement No additional data are available.

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